



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,406	11/28/2000	Takahiro Akatsuka	FUSA 18.026	6277
26304	7590	01/10/2005		
KATTEN MUCHIN ZAVIS ROSENMAN 575 MADISON AVENUE NEW YORK, NY 10022-2585			EXAMINER MILLS, DONALD L	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/723,406

Applicant(s)

AKATSUKA ET AL.

Examiner

Donald L Mills

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5, 7, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the claim specifies *said frame* (See claim 1, lines 9 and 11.)

However, it is unclear from the context of the claim whether *said frame* refers to the current or next frame. In addition, the claim specifies *other terminal* (See claim 1, line 10.) It is unclear from the context of the claim which terminal is the *other terminal*.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Nassehi et al. (US 5,210,750), hereinafter referred to as Nassehi.

Regarding claims 1 and 9, Nassehi discloses a method and apparatus for distributed queue multiple access in a communication system, which comprises:

Art Unit: 2662

Adding timing information as to a timing of transmitting a next frame from each terminal to a current frame when said current frame is transmitted from said each terminal onto a shared transmission line (Referring to Figures 2B, 2C, and 4, each slot has an access control field comprising a REQUEST FIELD, information as to the timing of transmitting a next frame for transmitting over multiple time slots, for control information, and a data segment field for carrying the data to be transmitted. See column 4, lines 11-14.)

Providing a timing reservation management table in each station (Referring to Figures 3 and 4, a FIFO storage is used for the request queue of local and external requests. See column 7, lines 15-16.)

Extracting said timing information from said frame which is transmitted onto said shared transmission line from other terminal (Referring to Figure 2C, 2D, and 4, the contents of each request field (RQ-F) of passing slots are extracted. See column 6, lines 47-50.)

Reserving both the timing of receiving said frame from said other terminal and the timing of transmitting a next frame from its own terminal in said timing reservation management table (Referring to Figures 2C, 2D, and 4, the request queue in FIFO 41 contains all the access request counts as seen by the respective station or generated by itself. See column 6, lines 58-61.)

Transmitting the next frame onto said shared transmission line when said timing of transmitting said next frame from its own terminal comes/A timing controller for prohibiting a frame from being transmitted from its own terminal at said timing of receiving a frame from other terminal, while allowing a frame to be transmitted from its own terminal onto said shared transmission line when said timing of transmitting a next frame comes by reference to said timing reservation management table (Referring to Figures 2C, 2D, and 4, a count in the top

Art Unit: 2662

position represents a local request which is transmitted and continues until the local request count has reached a value of zero. See column 6, lines 67-68 and column 7, lines 1-7. When an external request is honored local requests are not, when a local request is next in the FIFO queue.)

Regarding claim 2, Nassehi discloses *wherein all other terminals reserve the next frame transmitting timing information* (Referring to Figure 4, though the queues have different contents, they correctly reflect the access situation for each individual station thereby reserving the next frame for multiple slot requests. See column 7, lines 16-18.)

Regarding claim 3, Nassehi discloses *wherein said timing information for the next frame is disposed at the front portion of a preamble which is added to said frame and transmitted onto the shared transmission line* (Referring to Figures 2B and 2C, each slot has an access control field comprising a REQUEST FIELD, information as to the timing of transmitting a next frame for transmitting over multiple time slots, for control information, and a data segment field for carrying the data to be transmitted. See column 4, lines 11-14.)

Regarding claim 4, Nassehi discloses *wherein when data short of a prescribed size is transmitted with a carrier extension added thereto to satisfy said prescribed size, said timing information for the next frame is inserted into said carrier extension* (Referring to Figures 2B and 2C, regardless of whether the data segment is fully utilized or not, each slot has an access control field that is 2 bytes to satisfy the size requirement which comprises a REQUEST FIELD, carrier extension field which is information as to the timing of transmitting a next frame for transmitting over multiple time slots, for control information, and a data segment field for carrying the data to be transmitted. See column 4, lines 11-14.)

Regarding claims 5 and 11, Nassehi discloses *dividing data into a former data having a prescribed size and a latter data when the size of said data is larger than said prescribed size* (Referring to Figures 2A-D, the data segment comprises 68 bytes for data transmission. Any data transmitted larger than 68 bytes would require transmission over multiple time slots, thereby, having a former and latter data. See column 4, line 20;) *determining said timing information for a latter frame containing said latter data on the basis of the time required for transmitting a former frame containing said former data* (Referring to Figures 2A-D, any data transmitted larger than 68 bytes would require transmission over multiple time slots, thereby, having a former and latter data and requiring the reservation of multiple time slots. See column 4, line 20;) *and regarding said latter frame as a next frame and adding said timing information for said latter frame to said former frame* (Referring to Figures 2A-D, any data transmitted larger than 68 bytes would require transmission over multiple time slots, thereby, having a former and latter data and requiring the reservation of multiple time slots for transmission. See column 4, line 20.)

Regarding claims 7 and 12, Nassehi discloses *providing a timer which increments at certain intervals of time in each terminal* (Referring to Figure 3, the request queue FIFO storage comprises locations for local and external requests with positions incremented based upon receiving such requests. See column 6, lines 37-40;) *using the time measured by said timer as an address* (Referring to Figure 3, the request queue FIFO storage comprises locations for local and external requests with positions incremented based upon receiving such requests, each position is referenced by a pointer, address. See column 6, lines 37-40;) *and recording one selected from the group consisting of 'frame transmission by other terminals', 'frame transmission by its own*

Art Unit: 2662

terminal' and 'vacant' at a storage portion of said timing reservation management table which is indexed by said address (Referring to Figure 3, the request queue FIFO storage comprises locations for local and external requests as well as empty slots with positions incremented based upon receiving such requests, each position is referenced by a pointer, address. See column 6, lines 37-40.)

Regarding claim 10, Nassehi discloses *a buffer controller for queuing packets to be transmitted and outputting a predetermined packet when the transmission of said packet is instructed by said timing controller* (Referring to Figures 3 and 4, a FIFO storage is used for the request queue of local and external requests and outputted corresponding to their requests. See column 7, lines 15-16;) *a frame assembler for assembling said packet into a frame* (Referring to Figures 2A-D, slots consist of a data field data segment field and ACF. See column 11-14;) *wherein said transmitting timing information adding portion adds said timing information for the next frame to said frame which is output from said frame assembler* (Referring to Figures 2B, 2C, and 4, each slot has an access control field comprising a REQUEST FIELD, information as to the timing of transmitting a next frame for transmitting over multiple time slots, for control information, and a data segment field for carrying the data to be transmitted. See column 4, lines 11-14.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2662

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nassehi et al. (US 5,210,750), hereinafter referred to as Nassehi.

Regarding claim 8 as explained in the rejection statement of claim 1, Nassehi discloses all of the limitations of claim 1 (parent claim).

Nassehi does not disclose *the step of changing the unit of said increment of said timer in accordance with the type of said network.*

Nassehi teaches a request queue FIFO storage which comprises locations for local and external requests as well as empty slots with positions incremented based upon receiving such requests, with each position referenced by a pointer (See column 6, lines 37-40.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a different increment of timing for a different network in the method of Nassehi. One of ordinary skill in the art would have been motivated to do so in order to allow the FIFO compatibility with higher data networks. In addition, in so doing unexpected results are not produced.

Regarding claim 13 as explained in the rejection statement of claim 9, Nassehi discloses all of the limitations of claim 9 (parent claim).

Nassehi does not disclose *a means for detecting the transmission speed of said transmission line and a means for determining the unit of increment of said timer on the basis of said transmission speed.*

Art Unit: 2662

Nassehi teaches a request queue FIFO storage which comprises locations for local and external requests as well as empty slots with positions incremented based upon receiving such requests, with each position referenced by a pointer (See column 6, lines 37-40.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a different increment of timing for a different network in the method of Nassehi that is consistent with the detected transmission speed. One of ordinary skill in the art would have been motivated to do so in order to allow the FIFO compatibility with higher data networks. In addition, in so doing unexpected results are not produced.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2662

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills



January 5, 2005


JOHN PEZZULLO
PRIMARY EXAMINER